Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603755N: *Ship Self Defense - DEM/VAL*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	6.644	4.385	-	-	-	-	-	-	-	0.000	11.029
2133: *QRCC*	3.401	3.439	-	-	-	-	-	-	-	0.000	6.840
2184: *Force Advanced Warfare Concept Technology*	3.243	0.946	-	-	-	-	-	-	-	0.000	4.189

A. Mission Description and Budget Item Justification

This program incorporates efforts dedicated to the enhancement of ship defense against Anti-Air Warfare (AAW) and other evolving threats. Its primary focus is on the development of technologies, systems, and procedures necessary to defeat the evolving Anti-Ship Cruise Missile (ASCM) threat and then it expands to allow for application of these technologies in other warfighting areas. These projects focus on ship defense improvements through the development of advanced concepts and capabilities that will enhance both defense in depth of ships in a force and self defense of individual ships in a littoral war-fighting environment.

Quick Reaction Combat Capability (QRCC): The Requirements & Analysis Working Group (RAWG) was established in 1992 to conduct analysis of AAW ship self-defense capabilities and to establish requirements for ship class specific ASCM self-defense to support Navy AAW investment decisions. The RAWG is an independent and objective analysis team that constitutes the National expertise in force and self-defense capabilities assessment in AAW and Surface Warfare (SUW). RAWG maintains a database of ship system and ship class performance against ASCM and SUW threats to support rapid response to tasking.

Force Advanced Warfare Concept Technology (FACT), Project 2184, demonstrates concepts and capabilities that will enhance the warfighting ability of ships and aircraft and enable the coupling of the Force into a single, distributed weapon system through more effective use of tactical data, and force sensors and weapons.

During FY10, FACT's Ocean Surveillance Initiative (OSI) continued prototyping of technologies to provide a complete, accurate, wide area, persistent surface track picture in a tactical theater of interest. The emphasis of these technologies was on the planning and detection capabilities required to simultaneously track all surface targets within view of the radar. During FY10 and FY11, the Innovation Team began development and prototyping of technologies to provide a Strike Group with a Geo-Referenced Common Tactical Maritime Picture (CTMP), incorporating several thousand square miles of accurate, real time surface track data from aircraft such as Broad Area Maritime Surveillance Aircraft (BAMS), P-3, P-8, MH-60R and Fire Scout Unmanned Air Vehicle (UAV). FACT will begin to develop technologies for integration of the tactical surface picture in to surface combat systems such as Aegis and Ship Self Defense System (SSDS) and technologies to disseminate the Common Tactical Maritime Picture amongst the Carrier Strike Group/Expeditionary Strike Group (CSG/ESG). The Innovation Team will also analyze and assess the feasibility of wide area Anti-Submarine Warfare (ASW) sensor netting.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
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B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	6.931	4.385	3.476	-	3.476
Current President's Budget	6.644	4.385	-	-	-
Total Adjustments	-0.287	-	-3.476	-	-3.476
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.238	-			
• Program Adjustments	-	-	-3.476	-	-3.476
• Section 219 Reprogramming	-0.049	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Ended the program starting in 2012.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603755N: *Ship Self Defense - DEM/VAL*	PROJECT 2133: *QRCC*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2133: *QRCC*	3.401	3.439	-	-	-	-	-	-	-	0.000	6.840
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

RAWG was established in 1992 to conduct analysis of AAW ship self-defense capabilities and to establish requirements for ship class specific ASCM self-defense to support Navy AAW investment decisions. The RAWG is an independent and objective analysis team that constitutes the National expertise in force and self-defense capabilities assessment in AAW and SUW and maintains a database of ship system and ship class performance against ASCM and SUW threats to support rapid response to tasking.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: QRCC	3.401	3.439	-
Articles:	0	0	

FY 2010 Accomplishments:

RAWG completed analysis of:
1) Pre and post DDG 51 modernization capabilities
2) The delta in Cruiser Guided Missile (CG) performance in Air Defense and Integrated Air Missile Defense (IAMD), with and without the Multi Mission Signal Processor (MMSP) and other CG Mod combat system updates.
3) LHD 1 upgrade options
4) Updated threats and impact on current configurations
5) Impact of RAM Block 2 installation on performance of LSD 41/49

RAWG also responded to several high priority taskers from Navy leadership:
1) Jan 2010: Navy tasked the RAWG to compare the performance of specific LHD 2-6 combat system options against the CAPSTONE requirements.
2) Feb 2010: Navy tasked N2/N6 Electronic Warfare (EW/Intel) to address impact of updated threat assessment on Aegis capabilities and limitations; Navy requested short-notice RAWG assessment.
3) Apr 2010: Nulka configuration and launcher placement analysis to support Joint Strike Fighter integration on LHA 6 class ships.
4) May 2010 Navy tasked RAWG to review impacts on Aegis and SSDS performance based on a recent ASCM threat assessment update.

FY 2011 Plans:

RAWG will continue to assess the impact of RAM Block 2 installation on performance of CVNs 71 and 78, LHA 6 and LPD 24;

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Determine SSDS improvement in engagement performance against specific threats using proposed CEC-SSDS changes; investigate degradation of SPY resources available for AAW, as well as stand alone vs integrated w/Aegis; evaluate baseline Nulka performance for various ship classes and integrate hard kill and soft kill analyses; investigate advanced Electronic Support (ES) system (SEWIP BLK 2) integration approaches into combat systems and quantify impact to hardkill and softkill effectiveness (NULKA, RAM, Adaptive Engagement Control (AEC) enabled Hard Kill (HK) engagements).			
Accomplishments/Planned Programs Subtotals	3.401	3.439	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

1) Successfully complete 90% of assigned self-defense analysis tasks in support of Navy program reviews.

2) Successfully respond to 90% of all emergent tasks in support of Navy self-defense analysis questions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603755N: *Ship Self Defense - DEM/VAL*	PROJECT 2133: *QRCC*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	WR	Dahlgren, NSWC DD:WR	8.025	3.439	Nov 2010	-		-		-	0.000	11.464	
		Subtotal	8.025	3.439		-		-		-	0.000	11.464	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce Development Fund	C/TBD	Various:Various	0.017	-		-		-		-	0.000	0.017	
		Subtotal	0.017	-		-		-		-	0.000	0.017	

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.042	3.439		-		-		-	0.000	11.481	

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603755N: *Ship Self Defense - DEM/VAL*	PROJECT 2184: *Force Advanced Warfare Concept Technology*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2184: *Force Advanced Warfare Concept Technology*	3.243	0.946	-	-	-	-	-	-	-	0.000	4.189
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Force Advanced Warfare Concept Technology (FACT) Program is an advanced development effort designed to demonstrate Advanced Force concepts and capabilities that will significantly improve our Force defense in depth, including both local area and self defense capabilities against current and future threats. FACT improvements are designed to enhance the warfighting ability of ships and aircraft and to enable coupling of the Force into a single, distributed weapon system and towards more effective use of tactical data and the cooperative use of all the force sensors and weapons. These capabilities will provide the ship offensive flexibility needed to meet the threat brought about by increasing numbers of highly sophisticated weapons held by potentially hostile third world countries. FACT defines requirements and develops prototype systems or modifications to existing systems to test new concepts for the coordination of Force operations. FACT is a model innovation cell which consistently delivers advanced war-fighting capability that addresses current Fleet shortfalls and needs quickly and cost effectively. Some examples of prototype systems now in production are AN/SPS-48C Detection Data Converter, AN/SPS-48E Environmental Control Feature, Shipboard Gridlock System/Automatic Correlation (SGS/AC) and Dial-a-Track Quality (Link-11 Quality Selection). Other FACT developments include the Automatic Identification System and the Multi-Frequency Link-11 capability; Dual Net Multi-Frequency Link-11 Force Threat Evaluation Weapons Assignment; the prototype Area Air Defense Commander and the Joint Targeting Attack and Assessment Capability (JTAAC).

During FY10, FACT's OSI continued prototyping of technologies to provide a complete, accurate, wide area, persistent surface track picture in a tactical theater of interest. The emphasis of these technologies was on the planning and detection capabilities required to simultaneously track all surface targets within view of the radar. During FY10 and FY11, the Innovation Team began development and prototyping of technologies to provide a Strike Group with a Geo-Referenced CTMP, incorporating several thousand square miles of accurate, real time surface track data from aircraft such as BAMS, P-3, P-8, MH-60R and Fire Scout UAV. FACT will begin to develop technologies for integration of the tactical surface picture in to surface combat systems such as Aegis and SSDS and technologies to disseminate the CMTP amongst the CSG/ESG. The Innovation Team will also analyze and assess the feasibility of wide area ASW sensor netting.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Force Advanced Warfare Concept Technology	3.243	0.946	-
Articles:	0	0	
Description: Conduct critical FACT initiative proof of concept experiments. Provide top level programmatic support, technical analysis and assist in the development processes, procedures and documentation that impact the execution of the FACT program requirements. On-going development of an OSI prototype which will leverage the end to end capability realized by JTAAC and has the objective goal of attaining a tactically significant probability of detection, continuous track, and correct classification of small and medium sized vessels at sea state 5. Conduct critical experiments in support of the OSI.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: The Innovation Team successfully developed and demonstrated a multi-platform, multi-sensor data fusion capability which is the foundation to building and disseminating the CMTP. Developed roadmap for OSI implementation into Carrier-Based Tactical Support Center (CVTS) as well as the Fire Scout UAV. ***FY 2011 Plans:*** The Innovation Team will continue to develop technologies for a proof of concept demonstration of multi-platform, multi-sensor data fusion algorithms. The Innovation Team will continue to analyze and development of the concepts and technologies necessary to merge the CTMP data to create and disseminate the CTMP among the USN battlegroup in a particular theater of interest. The Innovation Team will continue to analyze and provide options for wide area ASW sensor netting.			
Accomplishments/Planned Programs Subtotals	3.243	0.946	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Quarterly program reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603755N: *Ship Self Defense - DEM/VAL*	PROJECT 2184: *Force Advanced Warfare Concept Technology*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	JHU/APL:Laurel, MD	16.566	0.696	Nov 2010	-		-		-	0.000	17.262	
		Subtotal	16.566	0.696		-		-		-	0.000	17.262	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	C/CPAF	DELTA RESOURCES:Arlington, VA	6.294	0.250	Nov 2010	-		-		-	0.000	6.544	
		Subtotal	6.294	0.250		-		-		-	0.000	6.544	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce Development Fund	Various	Various:Various	0.036	-		-		-		-	0.000	0.036	
		Subtotal	0.036	-		-		-		-	0.000	0.036	

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	22.896	0.946		-		-		-	0.000	23.842	

Remarks